

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-4. (Cancelled)

5. (Currently Amended) A method of implementing a sliding window protocol for transmitting frames in a communication system, the method comprising:

at a data receiving unit, identifying a failure to successfully receive a lost frame sent over a first channel from a data sending unit implementing a sliding window under the sliding window protocol, wherein the lost frame has a sequence number;

establishing a second channel between the data sending unit and the data receiving unit responsive to the identifying step; and

sending a request for retransmission of the lost frame over the established second channel, and wherein use of the second channel allows the sliding window at the data sending unit to be advanced beyond the sequence number of the lost frame prior to receiving an acknowledgement of receipt of the lost frame from the data receiving unit.

6. (Previously Presented) The method of claim 5 wherein the second channel is a logical tunnel channel.

7. (Previously Presented) The method of claim 5, further comprising:
receiving the lost frame at the data receiving unit, wherein the lost frame is received via the second channel.

8. (Previously Presented) The method of claim 5, further comprising:
sending an acknowledgement of receipt of the lost frame at the data receiving unit.

9. (Previously Presented) The method of claim 5 wherein the data receiving unit has a receive sliding window.

10. (Previously Presented) The method of claim 5 wherein a rate of data transfer from the data sending unit to the data receiving unit is different from a rate of data transfer from the data receiving unit to the data sending unit.

11. (Previously Presented) A method of transmitting frames in a communication system, the method comprising:

at a data receiving unit, identifying a failure to successfully receive a lost frame sent over a first channel from a data sending unit under a moving window scheme having a moving window at the data sending unit configured to advance from a minimum sequence number to a maximum sequence number for a first series of frames, after which the moving window restarts at the minimum sequence number in a next series of frames, wherein the lost frame has a sequence number N;

establishing a second channel between the data sending unit and the data receiving unit responsive to the identifying step; and

sending a request for retransmission of the lost frame over the second channel, wherein use of the second channel allows the moving window at the data sending unit to be advanced beyond the sequence number of the lost frame until it restarts, and then to a maximum point of N-1 prior to receiving an acknowledgement of receipt of the lost frame from the data receiving unit.

12. (Previously Presented) The method of claim 11 wherein the second channel is a logical tunnel channel.

13. (Previously Presented) The method of claim 11 wherein the data receiving unit has a receive moving window.

14. (Previously Presented) The method of claim 11 wherein the data receiving unit has a receive moving window and wherein the data receiving unit acknowledges receipt of frames having sequence numbers outside the receive moving window.

15. (Previously Presented) The method of claim 11, further comprising:
acknowledging receipt of frames irrespective of when the moving window at the data sending unit closes.

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Currently Amended) An apparatus for use in a communication system implementing a sliding window protocol, the apparatus configured for receiving frames from a data sending unit, the apparatus comprising:

means for identifying a failure to successfully receive, via a first channel, a lost frame sent from a data sending unit implementing a sliding window under the sliding window protocol, wherein the lost frame has a sequence number;

means for establishing a second channel between the data sending unit and the data receiving unit responsive to the means for identifying; and

means for sending a request for retransmission of the lost frame via the second channel, wherein use of the second channel allows the sliding window at the data sending unit to be advanced beyond the sequence number of the lost frame prior to receiving an acknowledgement of receipt of the lost frame from the receiver.

20. (Previously Presented) The apparatus of claim 19, further comprising: means for setting a first timer at the data receiving unit, wherein expiration of the first timer before receipt of the lost frame will result in resending the request for retransmission of the lost frame.

21-31 (Canceled)

32. (New) A method of implementing a sliding window protocol for transmitting frames in a communication system, the method comprising:

at a data receiving unit, identifying a failure to successfully receive a lost frame sent over a first channel from a data sending unit implementing a sliding window under the sliding window protocol, wherein the lost frame has a sequence number;

establishing a second channel between the data sending unit and the data receiving unit responsive to the identifying step;

sending a request for retransmission of the lost frame over the established second channel, and wherein use of the second channel allows the sliding window at the data sending unit to be advanced beyond the sequence number of the lost frame prior to receiving an acknowledgement of receipt of the lost frame from the data receiving unit; and

DOCKET NO.: CING-0623/770.US.C1
Application No.: 10/767,246
Office Action Dated: February 15, 2006

PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116

closing the second channel upon successful receipt and acknowledgement of the lost frame.